How integrated health IT systems improve efficiency of MRSA Surveillance in hospitals

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Abstract and Objectives

MRSA infection poses great health problem in the community. For decreasing MRSA nosocomial infection, hospitals have great resource to collect relevant clinical data related to MRSA infections to monitor the trends in hospitals and community and to develop protocol and guidelines of its control for infection management improvement. A clinical IT system, named MRSA Surveillance System, with integration of different clinical IT systems has been developed and implemented in hospitals of Hospital Authority of Hong Kong in 2007, in order to facilitate the originally labor-intensive data capture by frontline infection control teams related to MRSA surveillance and to provide updated and quality management reports for prompt MRSA infection identification and control. This integrated system improves efficiency of MRSA surveillance in hospitals.

Keywords:

MRSA infection, Nosocomial infection, Surveillance, Efficiency.

Introduction

MRSA infection poses great health problem in the community. Hospital acquired MRSA infection rate is key performance indicator in hospitals in some countries. Great resource has been contributed for collection of relevant clinical data related to MRSA infections to monitor the trends in hospitals and community and to develop protocol and guidelines of its control for infection management improvement. After detailed study of the frontline and management requirements and clinical workflows of infection control teams of different hospitals, a MRSA Surveillance System with integration of different IT systems has been developed and implemented in hospitals of Hospital Authority of Hong Kong (HA) in March 2007. This system efficiently provides relevant and updated information on patient listing for subsequent structured data capturing and useful reports to frontline and management across the whole organization for prompt infection identification and control.

Methodology

After detailed study of different workflow and beliefs for local hospital and corporate users and with full understanding of clinical workflow, a MRSA Surveillance System with integration of different IT systems, including Patient Administration System, Laboratory Information System, Diagnoses and Procedures, surgical operation record system (OTRS) and Pharmacy Dispensary System, has been developed and implemented in HA's hospitals in March 2007. The system provides relevant data and functions for each step of the clinical works and facilitates the data capture by frontline infection control teams and efficiently provides updated and quality management report for prompt MRSA infection identification and control.

Results

A total of 18,000 records have been created since its pilot and full roll-out in March 2007. Different stakeholders including the frontline and management teams found the system facilitating the clinical works and ensuring data quality and its sustainability for prompt MRSA infection identification and control. Detailed study of different workflow and beliefs for local hospital and corporate users to develop a system which can fulfill the requirements of different users would be one of the key success factors. With full understanding of clinical workflow through integration of different IT systems to provide relevant information and functions for each step of the works related to MRSA Surveillance and prompt infection control identification and control would ensure data quality and its sustainability. Standardization of clinical frontline practice and laboratory test and result data of the different hospitals and getting consensus of the outputs are required for surveillance system across the whole organization.

Conclusion

MRSA Surveillance System with integration of different IT systems efficiently provide relevant and updated information on patient listing for subsequent structured data capturing and useful reports to frontline and management across the whole organization for prompt infection identification and control. Such generic system would be extended to the surveillance for other important alerting micro-organisms in the near future.